

## Waiting game for Taiwan's entrepreneurs

As readers will probably be aware, the latest TFR Advanced Semiconductors Buyers' Guide is now available. In it you will not only find much useful buying information but also an article about compound activities in Taiwan. When read in this summary form it makes for an impressive demonstration of commercial enterprise. One must of course wonder how badly these young companies are faring at the moment. Collectively their manufacturing capacity is hurting in this downturn period not only in wireless but also opto. The general truism seems to be that if you do not have a fab then you are better placed because of the lower overheads.

Taiwan has long been known as a centre for contract manufacturing and back-end processing. Based on this success the strategy was to become self-sufficient in other higher added-value sectors. Firstly the interest was in epitaxy, both as a merchant and contract suppliers. Then the trend was for a move up into devices. At about the same time the former specialists were diversifying from just RF and into opto or vice versa. The capabilities they built up made this a sensible move.

Today there are no less than 44 compound semiconductor related business with manufacturing of some kind in Taiwan and six of these are in RFICs. This puts Taiwan in the

lead over all the other regions. Certainly this has translated into a lot of business for equipment makers, especially MOCVD and to a lesser extent MBE. So too with substrates because Taiwan's factories would, if they were running full bore, amount to a Top 3 consumer of substrates. What's more they are less tied to local sourcing than some other regions.

With devices and epiwafers well covered there is a gap that needs to be filled: substrates and related materials. Despite the huge consumption of these source materials none of the companies have set up as a local maker of substrates or organometallics etc. This would seem to be an opportunity begging. If local supply is important – which I am not sure it is today – maybe we might see a foreign company set up a factory there or form a partnership.

In conclusion, if they can weather the bad times then Taiwan's entrepreneurs will no doubt reap the rewards of the upturn. They can participate in the recovery as western companies ramp up fast. Thanks to their state-of-the-art equipment and facilities it could well be that these Taiwanese companies will be able to boost marketshare on competitive grounds.

**Roy Szweda, Associate Editor**

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